

ABSTRACT OF THE DISCLOSURE

The present inventive subject matter is drawn to a hybrid ultra reliable power generating system for supplying continuous reliable power at remote locations comprising: a primary power unit producing electric power that is supplied to a load. Also a secondary power unit is included in the form of a closed cycle vapor turbine (CCVT) system that is capable of producing 100% of the electric power that is produced by the primary power unit and which is heated in hot standby by rejected heat of the primary power unit, wherein the vaporizer of the CCVT is maintained during hot standby at a temperature above its nominal operating temperature and the vapor turbine of the CCVT is preferable maintained at idle during hot standby at a rotating speed. Furthermore, the present inventive subject matter is drawn to an apparatus that combines a fuel efficient primary power generation unit system such as a high temperature fuel cell with a secondary power unit that is a very high reliability closed cycle vapor turbine (CCVT) which operates according to a Rankine cycle using organic working fluid that is capable of producing approximately 5 - 15% of the electric power that is produced by the primary power unit and which is heated by rejected heat of the primary power unit, wherein working fluid in the vaporizer of the CCVT is heated by the heat rejected by the primary power unit.